

**ANALYTICAL RESULTS  
OF SURFACE WATER SAMPLES  
COLLECTED FROM RACCOON CREEK  
July 29, 1998 Sampling Event**

Prepared for

**ARCO CHEMICAL COMPANY/BEAZER EAST INC.  
Monaca, Pennsylvania**

Prepared by

**Applied Hydrology Associates, Inc.  
Denver, Colorado**

August 31, 1998

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## 1.0 INTRODUCTION

This report presents the results of surface water samples collected from Raccoon Creek at the ARCO Chemical Company (ACC) / Beazer East Inc. (BEI) Monaca, PA site during the July 1998 quarterly monitoring event. The samples were collected in compliance with Appendix D of the Consent Order and Agreement (CO&A) between ACC, BEI and the Pennsylvania Department of Environmental Protection (PADEP) dated October 20, 1997.

## 2.0 SAMPLING

Surface water samples were collected on July 29, 1998 at Transect E as defined in the 1997 CO&A. The locations of Transect E is shown in Figure 1. In addition, water elevations were measured in nearby monitoring wells and the results are presented in Appendix A.

A total of nine surface water samples, including two duplicates were collected from Raccoon Creek on July 29, 1998. In addition, a trip blank was shipped and analyzed. These samples were collected at the same three locations along Transect E as in previous sampling events. The locations are shown in Figure 2 and are at the center of the stream, and approximately 30 feet from the east and west banks. At the center location, samples were collected at three depths: 6 inches below surface, 2 inches above the bottom, and midway between the surface and bottom. Samples from the east and west sides of the transect were collected at two depths: 1 to 2 inches above the bottom, and midway between the surface and bottom.

During sampling the boat was anchored at Transect E and the anchors were laid away from the sampling location so sediment would not be introduced into the water sample. The samples were collected by using a peristaltic pump to pump water from the desired depth into three 40-milliliter vials preserved with hydrochloric acid. The depth of sample collection was controlled by securing tubing to a probe long enough to reach the bottom of the creek. The tubing was secured at the desired depth from the bottom of the probe, and the probe was set on the bottom of the creek. Care was taken not to disturb the sediments at the sampling location and the water was closely monitored to ensure sediment was not included in the sample. After the sample had been collected, the tubing was moved to the correct depth for the next sample, reattached to the probe, and the next sample was collected after again lowering the probe. One length of tubing was used for all sampling depths at each location; tubing was discarded and replaced between sampling locations.

The samples were uniquely numbered as follows to identify the location, depth and date of sampling:

RC-EC-00-0798

Where:

RC	indicates Raccoon Creek;
EC	indicates transect (E) and location (C = center, L = left bank, R = right bank ([facing downstream]));
00	indicates sample depth in feet and tenths of a foot (0.0 feet); and
0798	indicates the date collected (July 1998)

Samples were logged onto a chain of custody form (included as part of the data validation report in Appendix B) and stored on ice until receipt by Reliance Laboratories Inc. in Edison, NJ. Reliance analyzed the samples using USEPA Method 524.2 for BTEXS.

### **3.0 RESULTS**

The analytical results are presented in Table 1, which is the Certificate of Analysis from Reliance Laboratories. Benzene was detected in two of the eight samples (0.13 µg/L in sample RC-ER-34-0798, 0.22 µg/L in sample RC-ER-61-0798). Sampling locations and depths are shown on Figure 2, along with the concentration of benzene at each location. Water levels in wells near Raccoon Creek are presented in Appendix A.

The analytical data were validated upon receipt and found to be acceptable. A Data Validation Report is included as Appendix B. Table 2 presents the historical concentration of benzene in Raccoon Creek at Transect E during all monitoring events to date.

TABLE 1

RELIANCE  
LABORATORIES INC.



175 MAY STREET, EDISON, NJ 08837 PH (908) 738-5454 FAX (908) 738-5841  
EMAIL : 74201.3501@COMPUSERVE.COM

LABORATORY ID

NJ DEP NO. 12687

PA DER NO. 68437

CERTIFICATE OF ANALYSIS

Customer: Arco Chemical

Sample: Aqueous Samples

Date Sampled: 29 July 1998

Lab ID: R-6075

Reference: Arco Beazer/Monaca

31 July 1998

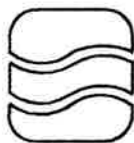
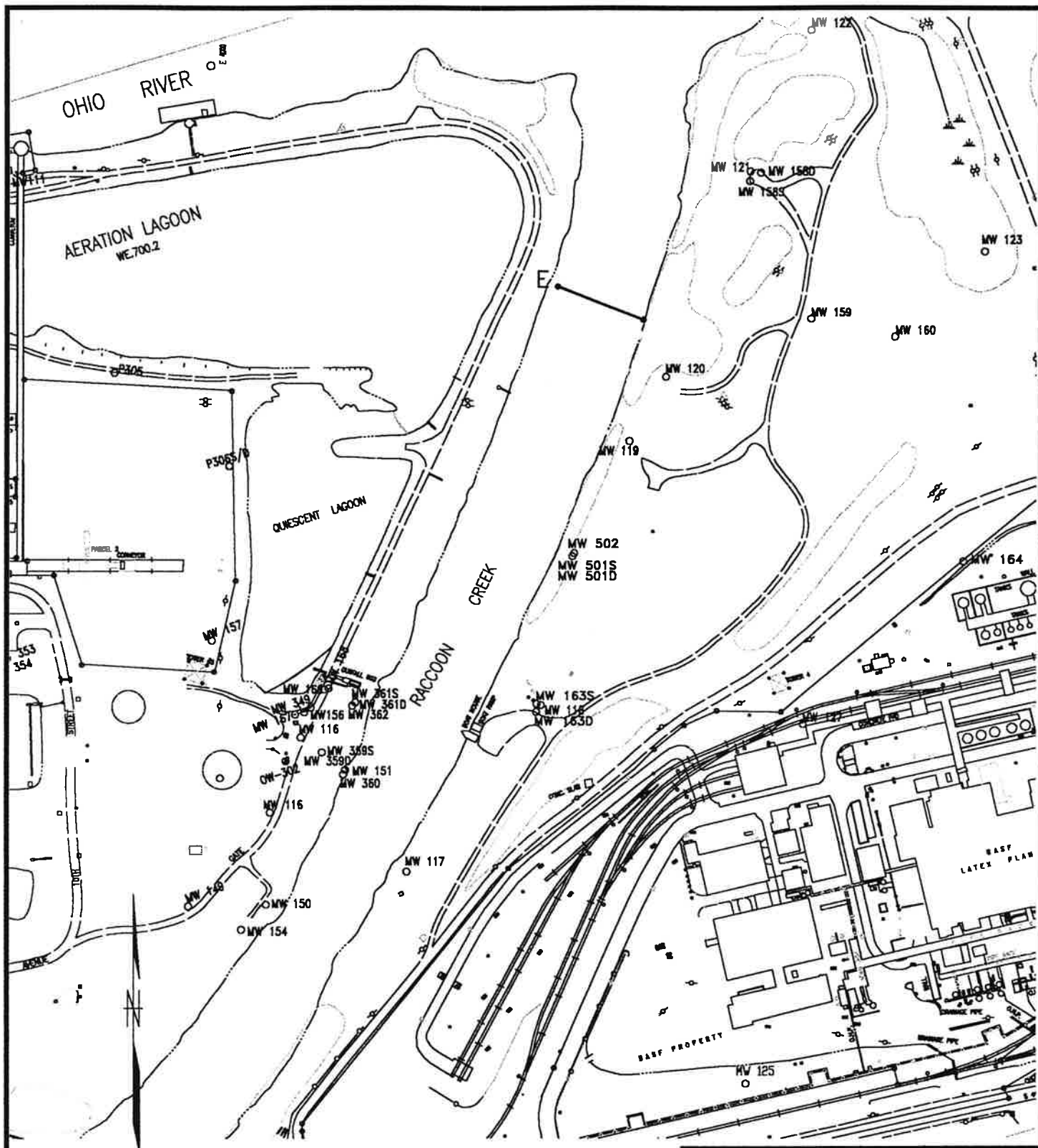
Units:  $\mu\text{g/L}$

Sample ID	Benzene	Toluene	Ethylbenzene	Xylene	Styrene
RC-EL-20-0798	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EL-48-0798	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EC-60-0798	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EC-00-0798	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EC-33-0798	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EC-33-0798A	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EC-60-0798A	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-ER-34-0798	0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-ER-61-0798	0.22	< 0.6	< 0.22	< 0.22	< 0.58
Trip Blank	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58

G. P. Kirpalani  
Manager

**Table 2**  
**Historic Benzene Concentrations at Transect E**  
(ug/L)

<b>Sampling Location</b>	<b>Sampling Depth</b>	<b>7/23/97</b>	<b>10/28/97</b>	<b>2/25/98</b>	<b>5/21/98</b>	<b>7/29/98</b>
30 Feet off West Bank	Shallow	0.28	<0.13	<0.13	0.70	<0.13
30 Feet off West Bank	Deep	0.81	<0.13	<0.13	0.70	<0.13
Center of Creek	Shallow	0.24	<0.13	0.38	0.70	<0.13
Center of Creek	Mid-Depth	0.18	<0.13	0.49	0.64	<0.13
Center of Creek	Deep	0.46	<0.13	0.30	0.60	<0.13
30 Feet off East Bank	Shallow	0.16	<0.13	<0.13	<0.13	0.13
30 Feet off East Bank	Deep	<0.13	<0.13	0.14	0.22	0.22



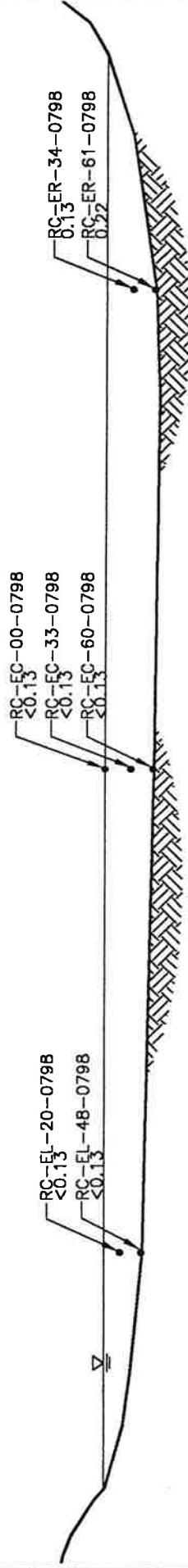
**Applied  
Hydrology  
Associates, Inc.**



**ARCO CHEMICAL COMPANY  
BEAVER VALLEY PROPERTY  
RACCOON CREEK QUARTERLY MONITORING**

**FIGURE 1  
TRANSECT AND  
MONITORING WELL  
LOCATIONS**

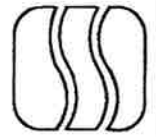
DESIGNED BY	SM	DATE	8/27/98	FILE REFERENCE	TRANSECT.DWG
DRAWN BY	MJZ	SCALE			
CHECKED BY		APPROVED BY		PROJECT NO.	36-5
				PAGE NO.	



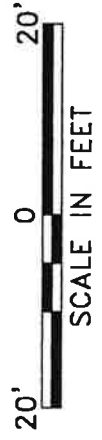
# CREEK SECTION LOOKING DOWNSTREAM

## LEGEND

- SURFACE WATER SAMPLE LOCATION
- ALL CONCENTRATIONS IN  $\mu\text{g/L}$



Applied  
Hydrology  
Associates, Inc.



ARCO CHEMICAL COMPANY  
BEAVER VALLEY PROPERTY  
RACCOON CREEK QUARTERLY MONITORING

## FIGURE 2

SURFACE WATER  
BENZENE CONCENTRATIONS  
AT 'TRANSECT 'E'

JULY 29, 1998

DESIGNED	SM	DATE	FILE REFERENCES
DRAWN	MAJ	8/27/98	
CHECKED		NOT TO SCALE	
		APPROVED	
			PROJECT NO. 36-5
			DWG NO. RACCRQM.DWG



**Appendix A**

**Groundwater Elevations, East and West Sides of  
Raccoon Creek**

**GROUNDWATER LEVELS ON THE EAST AND WEST SIDES OF RACCOON CREEK  
JULY 29, 1998**

<b>Monitoring Wells Screened in Silty Clay Unit</b>						
<b>OTH AREA</b>						
<b>Well Number</b>	<b>Top of Casing (TOC) (ft. amsl)</b>	<b>Depth to SPL from TOC (2) (ft. amsl)</b>	<b>Depth to Water from TOC (2) (ft. amsl)</b>	<b>Calculated Water Level Elevation (1) (ft. amsl)</b>	<b>Calculated SPL Thickness (3) (ft. amsl)</b>	<b>Comments</b>
MW - 360	685.84	ND	2.18	683.66	N/A	
MW - 170	706.70	ND	21.98	684.72	N/A	
MW 362	689.43	ND	5.70	683.73	N/A	
<b>RACCOON CREEK AREA</b>						
<b>Well Number</b>	<b>Top of Casing (TOC) (ft. amsl)</b>	<b>Depth to SPL from TOC (2) (ft. amsl)</b>	<b>Depth to Water from TOC (2) (ft. amsl)</b>	<b>Calculated Water Level Elevation (1) (ft. amsl)</b>	<b>Calculated SPL Thickness (3) (ft. amsl)</b>	<b>Comments</b>
MW- 118	690.39	ND	6.72	683.67	N/A	
MW - 502	701.86	ND	18.15	683.71	N/A	
MW - 119	705.59	ND	21.86	683.73	N/A	
MW - 120	709.42	ND	25.69	683.73	N/A	
MW - 121	713.90	ND	30.23	683.67	N/A	
MW - 152	696.35	ND	12.67	683.68	N/A	
Note: See Figure 1						
(1) Calculated values, based on Elevation of TOC minus Depth to Water from TOC.						
(2) Measured from top of casing using the MMA Interface Probe. ND means no SPL was detected.						
(3) Calculated values, based on Depth to Water from TOC minus Depth to SPL from TOC. N/A means not applicable, no SPL was detected.						

# GROUNDWATER LEVELS ON THE EAST AND WEST SIDES OF RACCOON CREEK

## JULY 29, 1998

Monitoring Wells Screened in Upper Sand and Gravel Unit						
OTH AREA						
Well Number	Top of Casing (TOC) (ft. amsl)	Depth to SPL from TOC (2) (ft. amsl)	Depth to Water from TOC (2) (ft. amsl)	Calculated Water Level Elevation (1) (ft. amsl)	Calculated SPL Thickness (3) (ft. amsl)	Comments
MW - 344	709.42	ND	25.39	684.03	N/A	
MW - 359S	692.93	ND	9.26	683.67	N/A	
MW - 361S	689.40	ND	5.72	683.68	N/A	
MW - 169	707.93	ND	24.25	683.68	N/A	
MW - 167	707.36	ND	23.70	683.66	N/A	
Note: See Figure 1						
(1) Calculated values, based on Elevation of TOC minus Depth to Water from TOC.						
(2) Measured from top of casing using the MMA Interface Probe. ND means no SPL was detected.						
(3) Calculated values, based on Depth to Water from TOC minus Depth to SPL from TOC. N/A means not applicable, no SPL was detected.						

**GROUNDWATER LEVELS ON THE EAST AND WEST SIDES OF RACCOON CREEK  
JULY 29, 1998**

<b>Monitoring Wells Screened in Upper Sand and Gravel Unit</b>						
<b>RACCOON CREEK AREA</b>						
<b>Well Number</b>	<b>Top of Casing (TOC) (ft. amsl)</b>	<b>Depth to SPL from TOC (2) (ft. amsl)</b>	<b>Depth to Water from TOC (2) (ft. amsl)</b>	<b>Calculated Water Level Elevation (1) (ft. amsl)</b>	<b>Calculated SPL Thickness (3) (ft. amsl)</b>	<b>Comments</b>
MW - 163S	690.87	ND	7.18	683.69	N/A	
MW - 501S	701.30	ND	17.88	683.42	N/A	
MW - 162S	706.05	ND	22.34	683.71	N/A	
MW - 159	708.99	ND	25.38	683.61	N/A	
MW - 160	701.00	ND	17.34	683.66	N/A	
MW - 158S	713.60	ND	30.01	683.59	N/A	
MW - 122	692.78	ND	9.23	683.55	N/A	
Note: See Figure 1						
(1) Calculated values, based on Elevation of TOC minus Depth to Water from TOC.						
(2) Measured from top of casing using the MMA Interface Probe. ND means no SPL was detected.						
(3) Calculated values, based on Depth to Water from TOC minus Depth to SPL from TOC. N/A means not applicable, no SPL was detected.						

**GROUNDWATER LEVELS ON THE EAST AND WEST SIDES OF RACCOON CREEK  
JULY 29, 1998**

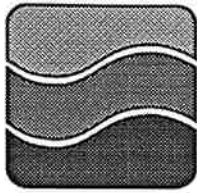
[illegible]

**GROUNDWATER LEVELS ON THE EAST AND WEST SIDES OF RACCOON CREEK  
JULY 29, 1998**

Monitoring Wells Screened in Lower Sand and Gravel Unit						
OTH AREA						
Well Number	Top of Casing (TOC) (ft. amsl)	Depth to SPL from TOC (2) (ft. amsl)	Depth to Water from TOC (2) (ft. amsl)	Calculated Water Level Elevation (1) (ft. amsl)	Calculated SPL Thickness (3) (ft. amsl)	Comments
MW 345	708.91	ND	25.32	683.59	N/A	
MW 361D	689.35	ND	5.65	683.70	N/A	
MW 359D	692.80	ND	9.16	683.64	N/A	
RACCOON CREEK AREA						
Well Number	Top of Casing (TOC) (ft. amsl)	Depth to SPL from TOC (2) (ft. amsl)	Depth to Water from TOC (2) (ft. amsl)	Calculated Water Level Elevation (1) (ft. amsl)	Calculated SPL Thickness (3) (ft. amsl)	Comments
MW 163D	689.62	ND	5.86	683.76	N/A	
MW 501D	701.44	ND	17.88	683.56	N/A	
MW 166D	703.95	ND	20.31	683.64	N/A	
MW 158D	712.04	ND	28.59	683.45	N/A	
Note: See Figure 1						
(1) Calculated values, based on Elevation of TOC minus Depth to Water from TOC.						
(2) Measured from top of casing using the MMA Interface Probe. ND means no SPL was detected.						
(3) Calculated values, based on Depth to Water from TOC minus Depth to SPL from TOC. N/A means not applicable, no SPL was detected.						

## **Appendix B**

### **Data Validation Report**



**Applied  
Hydrology  
Associates, Inc.**

1720 South Bellaire Street, Suite 600 Denver, CO 80222

Tel: (303) 782-0164

Fax: (303) 782-0139

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## **M E M O R A N D U M**

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**DATE:** 8/20/98

**TO:** Skip Meier

**FROM:** Kevin Ritter

**RE:** Data Validation Results, ARCO Monaca Facility

Data validation was performed on the volatile organic analytical data from nine samples and one trip blank collect on July 29, 1998. The validation was performed in accordance with the "National Functional Guidelines for Evaluating Organic Analyses" as modified by USEPA Region III (June 1992). Reliance Laboratories, Inc. performed the analyses using EPA Method 524.2, (EPA-600/R-92-129, August 1992). The samples reviewed included:

Field Sample ID	Lab Sample ID
RC-EL-20-0798	R-6075.1
RC-EL-48-0798	R-6075.2
RC-EC-60-0798	R-6075.3
RC-EC-00-0798	R-6075.4
RC-EC-33-0798	R-6075.5
RC-EC-33-0798A	R-6075.6
RC-EC-60-0798A	R-6075.7
RC-ER-34-0798	R-6075.8
RC-ER-61-0798	R-6075.9
TRIP BLANK	R-6075.10

Items reviewed and actions taken were as follows:

✓ **Method:**

The ten samples were analyzed for BTEXS by method USEPA 524.2.

✓ **Samples:**

All samples were analyzed.



✓ **Holding Time:**

All samples were analyzed within the 14-day holding time. Note that all samples were field preserved with hydrochloric acid.

✓ **Blanks:**

No target compounds were detected in any of the associated method blanks or the trip blank.

✓ **Surrogates:**

All 4-bromofluorobenzene and 1,2-dichlorobenzene-d4 surrogate recoveries were within the 80-120 percent criteria.

✓ **Internal Standards:**

All fluorobenzene internal standards were within the established criteria for area and retention time.

✓ **BFB Tunes:**

All bromofluorobenzene (BFB) tunes met mass calibration criteria.

✓ **Initial Calibrations:**

The initial calibration performed on June 30, 1998 for Instrument HP5971A met the 20 percent relative standard deviation (RSD) and 0.05 minimum relative response factor criteria for all compounds. Initial calibrations are good for 30 days as long as the continuing calibrations are valid.

✓ **Continuing Calibrations:**

All continuing calibrations met the percent difference and minimum relative response factor criteria for all compounds.

✓ **Matrix spike/Duplicate:**

The matrix spike/duplicate performed on sample RC-EC-60-0798 met all accuracy and precision criteria.

✓ **Target Compound Identification/Quantitation:**

No problems were identified with compound identification or quantitation.

✓ **Field Duplicate:**

Two field duplicate pairs were collected during this sampling event: RC-EC-33-0798/ RC-EC-33-0798A and RC-EC-60-0798/ RC-EC-60-0798A. The relative percent difference (RPD) equation will yield a maximum value of 200% if one of the two concentrations is zero. Since non-detection does not necessarily mean a zero concentration, RPD was not calculated for these duplicate pairs since all constituents were reported as non-detects.

✓ **Summary:**

The data were acceptable as reported.

RELIANCE  
LABORATORIES, INC.



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EMAIL: 74201.3501@COMPUSERVE.COM

## **ANALYTICAL REPORT**

*For*  
*Arco Chemical Co.*  
*Pittsburgh, PA 15219*

*Project: AHA*

RELIANCE  
LABORATORIES, INC.



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EMAIL: 74201.3501@COMPUSERVE.COM

**ANALYTICAL DATA REPORT**

for

**Arco Chemical Co.  
Pittsburgh, PA 15219  
Project:**

Date Received: 7/31/98

<u>Sample ID</u>	<u>Lab ID #</u>
RC-EL-20-0798	R-6075.1
RC-EL-48-0798	R-6075.2
RC-EC-60-0798	R-6075.3
RC-EC-00-0798	R-6075.4
RC-EC-33-0798	R-6075.5
RC-EC-33-0798A	R-6075.6
RC-EC-60-0798A	R-6075.7
RC-ER-34-0798	R-6075.8
RC-ER-61-0798	R-6075.9
Trip Blank	R-6075.10

These samples have been analyzed by EPA method 524.2 for a selected compound list.  
The results are not designed for use for drinking water purposes.

G. P. Kirpalani  
Manager

GPk/vb

RELIANCE  
LABORATORIES INC.



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RELIANCE  
LABORATORIES, INC.



175 MAY STREET, EDISON, NJ 08837 PH (732) 738-5454 FAX (732) 738-5841  
EMAIL: 74201.3501@COMPUSERVE.COM

**LABORATORY CHRONICLE**

Customer Name Arco Chemical Co.  
Date Received: 7/30/98  
Date Sampled: 7/29/98  
Sample ID: As per chain of custody

Organic Extraction:

1 Acids \_\_\_\_\_  
2 Base / Neutrals \_\_\_\_\_  
3 Pesticides/PCB's \_\_\_\_\_  
4 TPHC \_\_\_\_\_

Analysis:

1 Volatiles \_\_\_\_\_ 7/30/98 7/31/98  
2 Acids \_\_\_\_\_  
3 Base/Neutrals \_\_\_\_\_  
4 Pesticides/PCB's \_\_\_\_\_  
5 TPHC \_\_\_\_\_

Inorganics:

1 Metals \_\_\_\_\_  
2 Cyanides \_\_\_\_\_  
3 Phenols \_\_\_\_\_

Other Analysis:

\_\_\_\_\_  
\_\_\_\_\_

Supervisor  
Review & Approval

*GP Kirpalane*

RELIANCE  
LABORATORIES INC.



3090 WOODBRIDGE AVENUE, EDISON NJ 08837 PH (908) 738-5454 FAX (908) 738-5841

NON-CONFORMANCE SUMMARY

Reliance Labs received 9 water samples for BTEXS by method 524.2 from Arco/AHA on 30 July 1998. Samples consisted of 10 vials including trip blank.

Matrix spike recovery analysis was performed on sample and results are attached.

All analyses were performed within the required holding time.

STANDARD OPERATING PROCEDURE  
METHOD 524.2

1. Scope

This is the general method for the procedure used to identify purgeable volatile organics in portable water. The sample is purged with ultra high purity helium and concentrated into a trap. The volatiles are then thermally desorbed onto a megabore column and identified using a mass spectrometer detector.

2. Equipment and Apparatus

A. Sample containers- 40ml screw caps amber vials.

B. Purge and Trap System.

1. 25cm VOCARB 3000 trap.

C. Glassware

1. 20 ml fritted purging vessels.

2. 25 ml teflon sealed syringe with lever lock assembly.

3. 10  $\mu$ L syringes.

D. Gas Chromographic / Mass Spectrometer.

1. Column type J&W

75 m, 0.53 mm ID, DB624 3 microns

E. Apparatus Conditions

1. Tekmar (purge and trap)

a.	Purge time	:	2 min.
b.	Desorb time and temp.	:	250° for 2 min.
c.	Bake time and temp.	:	260° for 12 min.
d.	Flow rate	:	15 cc/min.

2. GC Conditions

a.	Column flow	15 cc/min.
b.	Initial temp.	35° C
c.	Ramping Rate	6° C/min.
d.	Final temp.	200° C
e.	Run time	47.25 min.
f.	Initial time	6 min.

3. Stock Standards

A. Internal Standard

1. Fluorobenzene

B. Surrogates

1. 1,2-dichlorobenzene-d4

2. 4-bromofluorobenzene

C. Prepare standard solutions for all target compounds and surrogates at 20 ppm.

D. Prepare internal standard at 20 ppm in methanol.

1. Prepare all standards and store in teflon sealed 1 ml vials.

4. Run Sequence
- A. Tune Instrument
1. Inject 1  $\mu$ L of 25 ppm BFB into GC.
    - a. Tune must pass against criteria.
    - b. Tune must be run before any samples, blank or calibrations can be run.
    - c. From time to tune 12 hours are available to run all QC data and samples.
- B. Five Point Calibration Curve
1. Purge five (5) concentrations of standard solutions containing all the target analysis at 1 ppb, 2 ppb, 5 ppb, 10 ppb, and 20 ppb.
  2. The above standard must be run within 12 hours of injecting the BFB tune.
  3. Created a calibration curve with the above standard runs.
    - a. If the 30% RSD deviation is exceeded the standards must be run again (still within 12 hours)
  4. Create an identification file from this calibration curve for automated quantification.
- C. If time remains in the 12-hour run period go to step F.
- D. If the 12-hour period has expired, a new tune must be injected and a new sequence must be started.
- E. Once an initial calibration curve is established a continuing calibrations check may be run. A continuing calibration check is required every time the mass spectrometer is tuned.
1. 2 ppb concentration of all target compounds is purged and quanted against current ID file.
  2. Check the response factors of this run against the average RF of the calibration file. The RF of the continuing calibration must be within  $\pm 50\%$  D (difference) of the 5 point for all compounds.
  3. The area counts of internal standard and surrogates must not be decreased by  $>30\%$  from the most recent continuing calibration standard nor decrease by  $>50\%$  from the initial calibration standard.
- F. Daily Blank
1. Purge 20 ml of laboratory reagent water (nanopure) with 5 ppb internal standard and 5 ppb each surrogate.
  2. Run this blank and quant against current ID file.
  3. If blank does not meet criteria, it must be rerun before analyzing any samples.
- G. Samples
1. Fill 25 ml syringe until it overflows with sample. Then adjust the volume to 20 ml exactly.
  2. Inject 5  $\mu$ l each 25 ppm internal standard and surrogate standard solution into each sample.
  3. Run and quant against the current 5 point calibration curves.
  4. Any sample with target compound over 50 ppb must be rerun at the appropriate dilution.
  5. Any sample not injected in 12-hour period must be rerun.
- H. Quality Control Sample (QCS)
1. Analyze a QCS from an external source at least quarterly.



RELIANCE  
LABORATORIES INC.



175 MAY STREET, EDISON, NJ 08837 PH (908) 738-5454 FAX (908) 738-5841  
EMAIL : 74201.3501@COMPUSERVE.COM

LABORATORY ID  
NJ DEP NO. 12687  
PA DER NO. 68437

CERTIFICATE OF ANALYSIS

Customer: ICF Kaiser / Arco Chemical  
Sample: Aqueous Samples  
Date Sampled: 29 July 1998  
Lab ID: R-6075  
Reference: Arco Beazer/Monaca

31 July 1998

Units:  $\mu\text{g/L}$

Sample ID	Benzene	Toluene	Ethylbenzene	Xylene	Styrene
RC-EL-20-0798	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EL-48-0798	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EC-60-0798	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EC-00-0798	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EC-33-0798	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EC-33-0798A	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-EC-60-0798A	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-ER-34-0798	0.13	< 0.6	< 0.22	< 0.22	< 0.58
RC-ER-61-0798	0.22	< 0.6	< 0.22	< 0.22	< 0.58
Trip Blank	< 0.13	< 0.6	< 0.22	< 0.22	< 0.58

G. P. Kirpalani  
Manager

# Quantitation Report

Data File : c:\hpchem\1\data\v5608.d  
 Acq On : 30 Jul 98 10:17 pm  
 Sample : R-6075.3  
 Misc : Arco - RC-EL-20-0798  
 Quant Time: Jul 31 9:00 1998

Vial: 9  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics  
 Last Update : Fri Jul 31 08:59:00 1998  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	12.88	96	1750106	5.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
43) 4-bromofluorobenzene	25.95	95	653297	4.74	ug/L	94.71%
55) 1,2-dichlorobenzene-d4	31.13	152	419165	4.79	ug/L	95.71%

Target Compounds

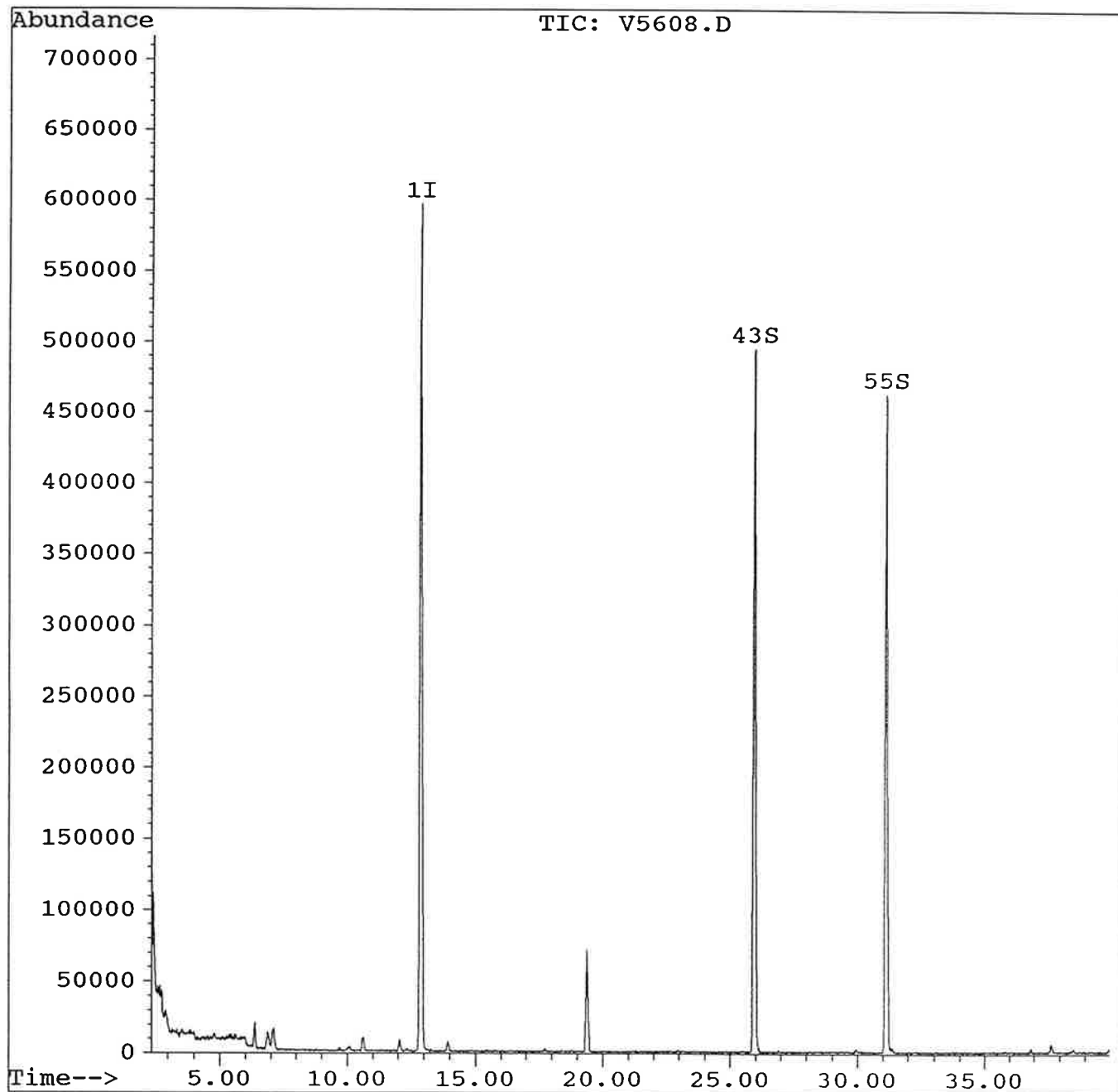
Qvalue

# Quantitation Report

Data File : c:\hpchem\1\data\v5608.d  
Acq On : 30 Jul 98 10:17 pm  
Sample : R-6075.3  
Misc : Arco - RC-EL-20-0798  
Quant Time: Jul 31 9:00 1998

Vial: 9  
Operator: vb  
Inst : 5971 - In  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
Title : 524.2 Purgable Organics  
Last Update : Fri Jul 31 08:59:00 1998  
Response via : Multiple Level Calibration



# Quantitation Report

Data File : c:\hpchem\1\data\v5609.d  
 Acq On : 30 Jul 98 11:04 pm  
 Sample : R-6075.4  
 Misc : Arco - RC-EL-48-0798  
 Quant Time: Jul 31 9:00 1998

Vial: 10  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics  
 Last Update : Fri Jul 31 08:59:00 1998  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	12.88	96	1875732	5.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
43) 4-bromofluorobenzene	25.94	95	693759	4.69	ug/L	93.84%
55) 1,2-dichlorobenzene-d4	31.13	152	428288	4.56	ug/L	91.24%

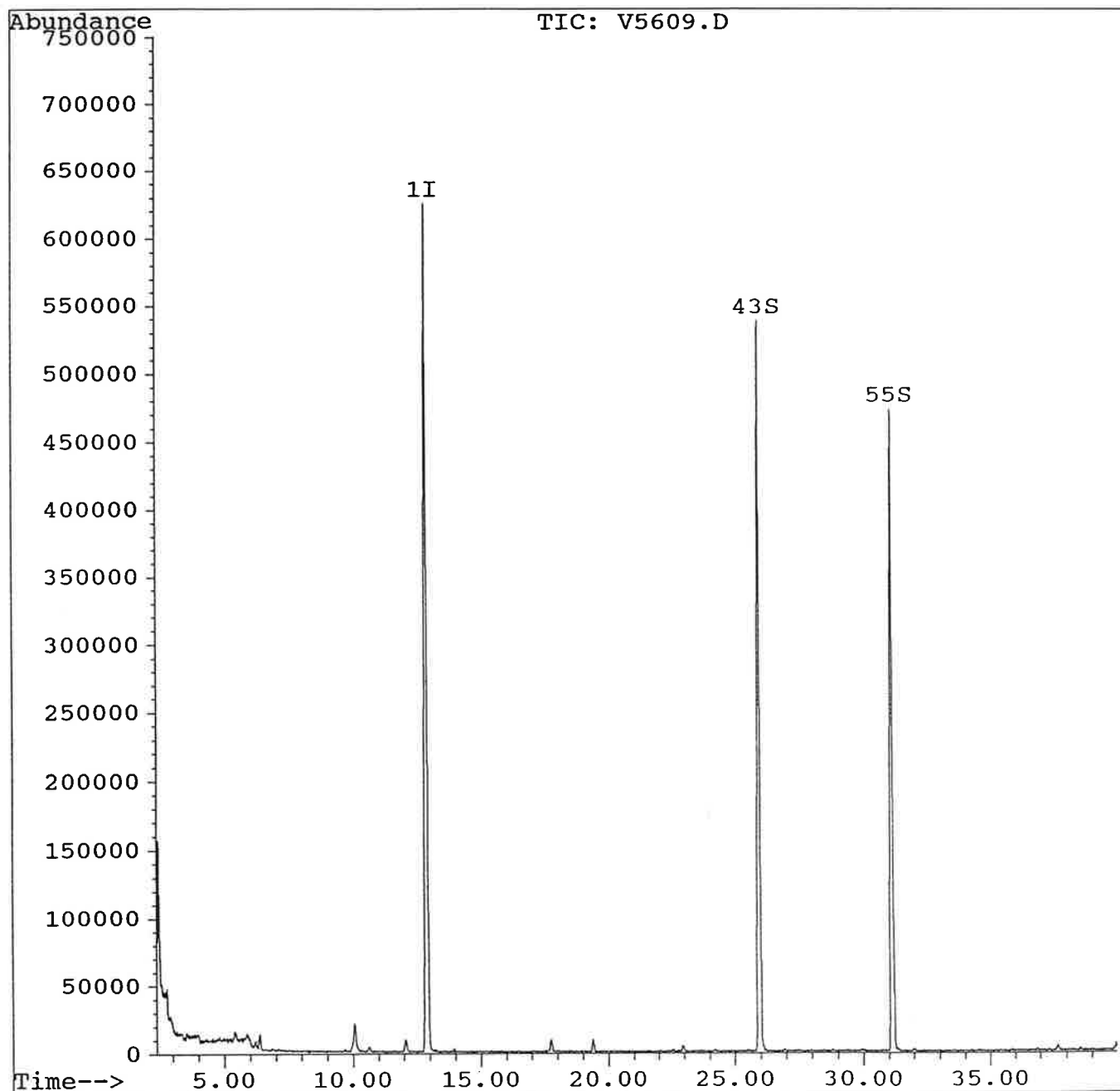
Target Compounds Qvalue

# Quantitation Report

Data File : c:\hpchem\1\data\v5609.d  
Acq On : 30 Jul 98 11:04 pm  
Sample : R-6075.4  
Misc : Arco - RC-EL-48-0798  
Quant Time: Jul 31 9:00 1998

Vial: 10  
Operator: vb  
Inst : 5971 - In  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
Title : 524.2 Purgable Organics  
Last Update : Fri Jul 31 08:59:00 1998  
Response via : Multiple Level Calibration



# Quantitation Report

Data File : c:\hpchem\1\data\v5610.d  
 Acq On : 30 Jul 98 11:50 pm  
 Sample : R-6075.5  
 Misc : Arco - RC-EC-60-0798  
 Quant Time: Jul 31 9:00 1998

Vial: 11  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics  
 Last Update : Fri Jul 31 08:59:00 1998  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	12.88	96	1681324	5.00	ug/L	0.00

System Monitoring Compounds					%Recovery
43) 4-bromofluorobenzene	25.94	95	654063	4.94 ug/L	98.70%
55) 1,2-dichlorobenzene-d4	31.12	152	434653	5.17 ug/L	103.31%

Target Compounds	Qvalue

# Quantitation Report

Data File : c:\hpchem\1\data\v5611.d  
 Acq On : 31 Jul 98 12:37 am  
 Sample : R-6075.6  
 Misc : Arco - RC-EC-00-0798  
 Quant Time: Jul 31 9:00 1998

Vial: 12  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics  
 Last Update : Fri Jul 31 08:59:00 1998  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	12.87	96	1584269	5.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
43) 4-bromofluorobenzene	25.95	95	601294	4.81	ug/L	96.30%
55) 1,2-dichlorobenzene-d4	31.12	152	398434	5.03	ug/L	100.50%

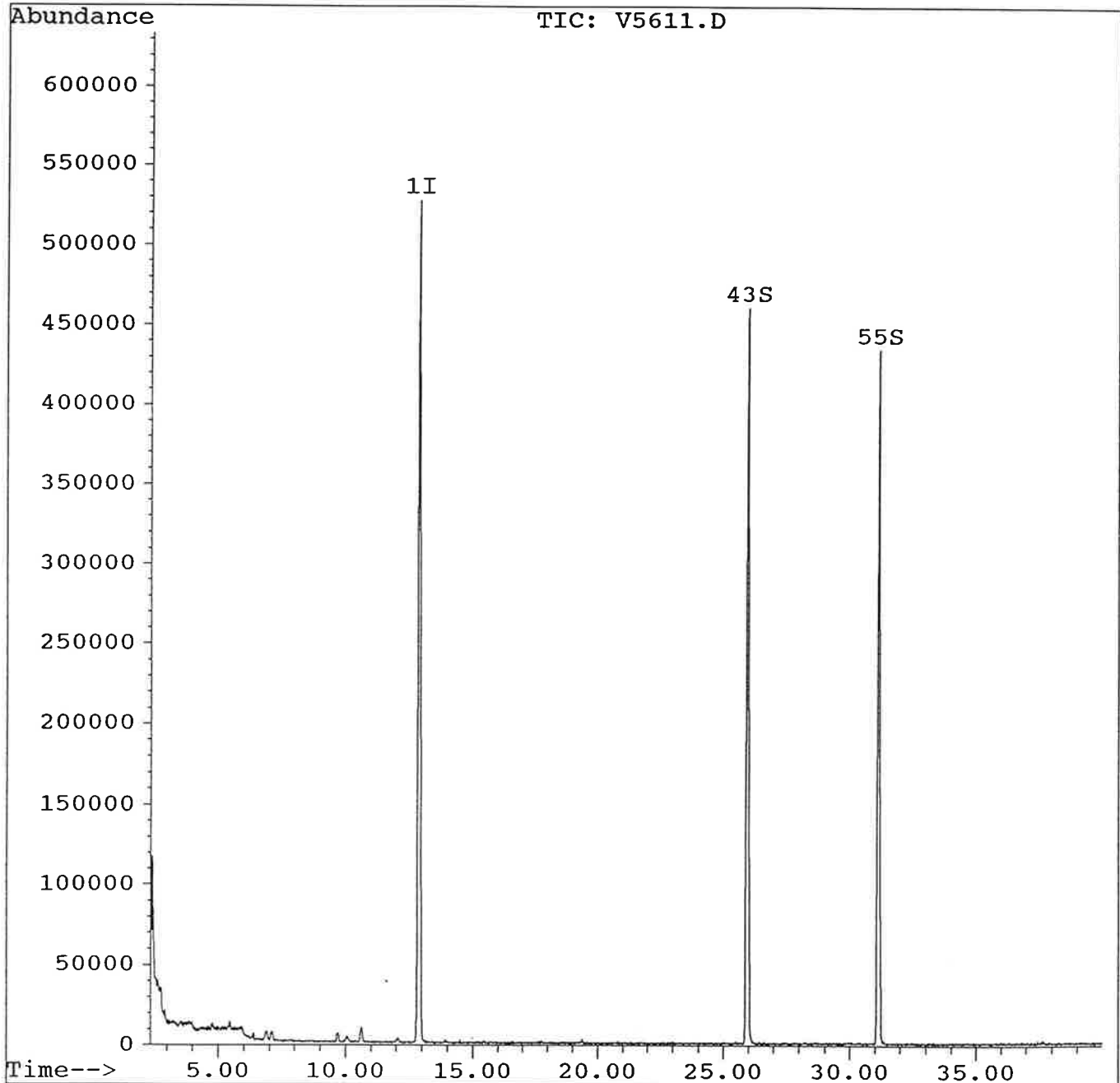
Target Compounds	Qvalue

# Quantitation Report

Data File : c:\hpchem\1\data\v5611.d  
Acq On : 31 Jul 98 12:37 am  
Sample : R-6075.6  
Misc : Arco - RC-EC-00-0798  
Quant Time: Jul 31 9:00 1998

Vial: 12  
Operator: vb  
Inst : 5971 - In  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
Title : 524.2 Purgable Organics  
Last Update : Fri Jul 31 08:59:00 1998  
Response via : Multiple Level Calibration





# Quantitation Report

Data File : c:\hpchem\1\data\v5612.d  
 Acq On : 31 Jul 98 1:24 am  
 Sample : R-6075.7  
 Misc : Arco - RC-EC-33-0798  
 Quant Time: Jul 31 9:01 1998

Vial: 13  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics  
 Last Update : Fri Jul 31 08:59:00 1998  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	12.87	96	1980936	5.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
43) 4-bromofluorobenzene	25.94	95	694809	4.45	ug/L	88.99%
55) 1,2-dichlorobenzene-d4	31.12	152	430975	4.35	ug/L	86.94%

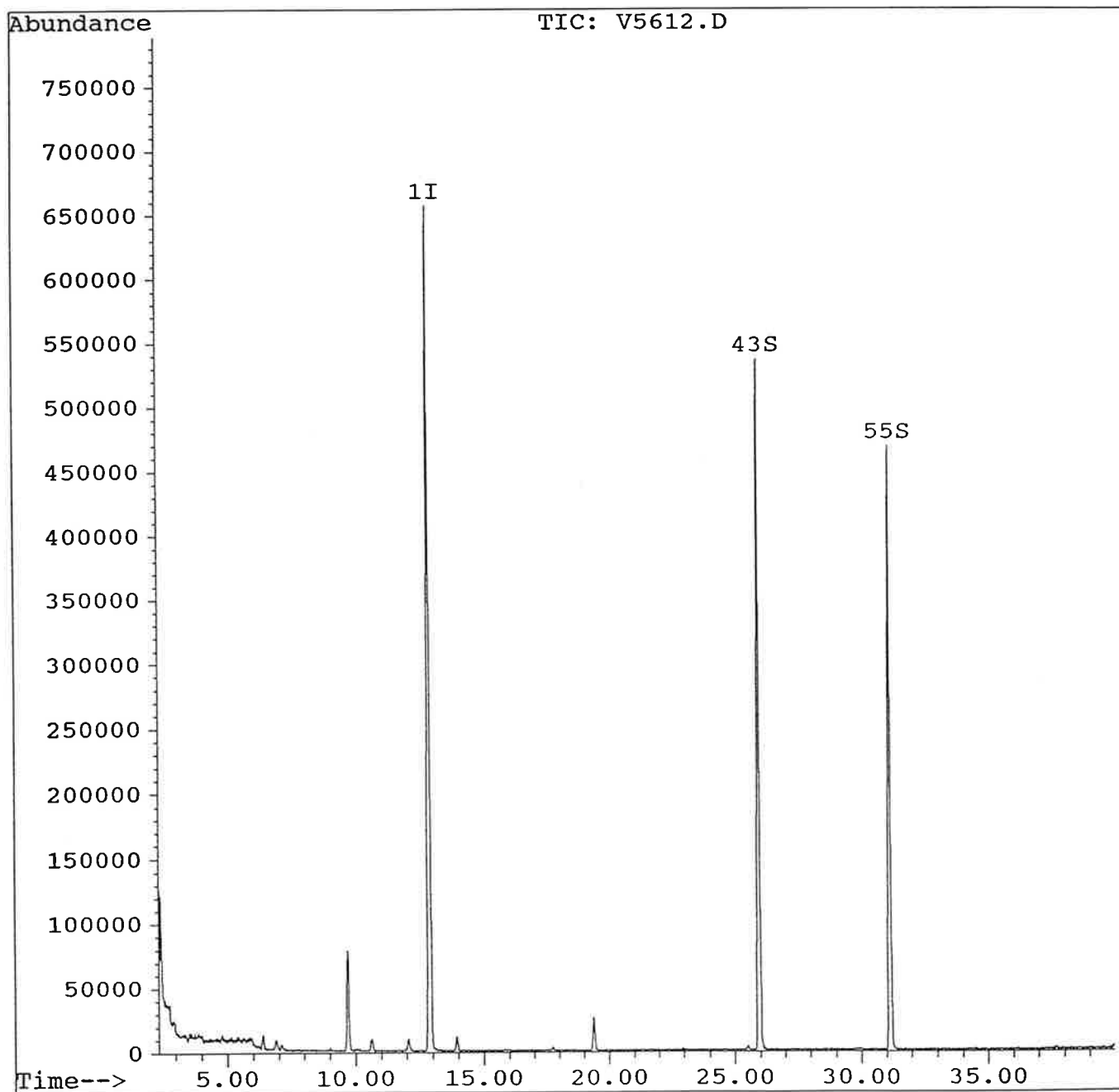
Target Compounds	Qvalue

# Quantitation Report

Data File : c:\hpchem\1\data\v5612.d  
Acq On : 31 Jul 98 1:24 am  
Sample : R-6075.7  
Misc : Arco - RC-EC-33-0798  
Quant Time: Jul 31 9:01 1998

Vial: 13  
Operator: vb  
Inst : 5971 - In  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
Title : 524.2 Purgable Organics  
Last Update : Fri Jul 31 08:59:00 1998  
Response via : Multiple Level Calibration



# Quantitation Report

Data File : c:\hpchem\1\data\v5613.d  
 Acq On : 31 Jul 98 2:11 am  
 Sample : R-6075.8  
 Misc : Arco - RC-EC-33-0798A  
 Quant Time: Jul 31 9:01 1998

Vial: 14  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics  
 Last Update : Fri Jul 31 08:59:00 1998  
 Response via : Multiple Level Calibration

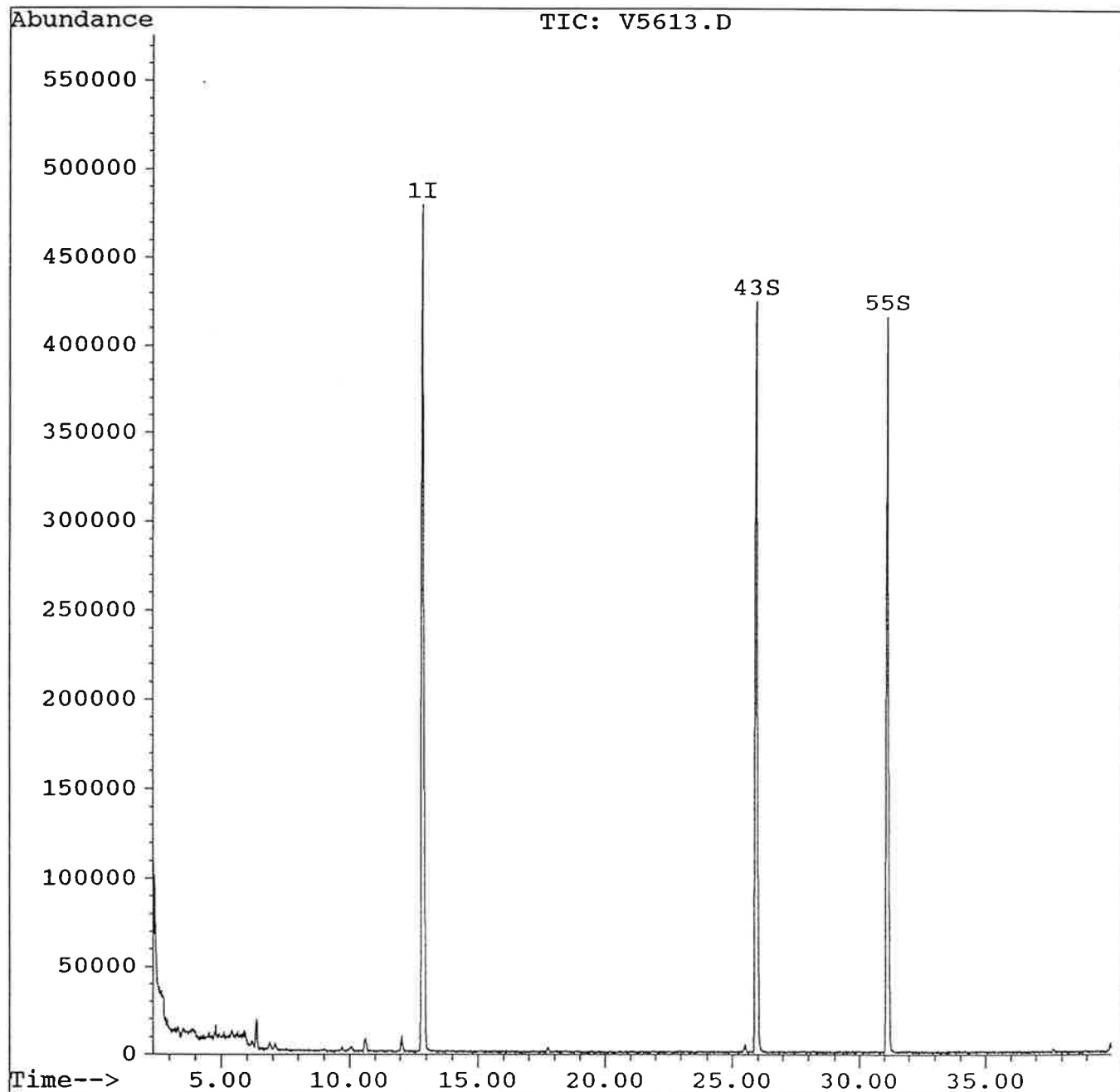
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	12.88	96	1410636	5.00	ug/L	0.00
System Monitoring Compounds						%Recovery
43) 4-bromofluorobenzene	25.95	95	566384	5.09	ug/L	101.87%
55) 1,2-dichlorobenzene-d4	31.13	152	374697	5.31	ug/L	106.15%
Target Compounds						Qvalue

# Quantitation Report

Data File : c:\hpchem\1\data\v5613.d  
Acq On : 31 Jul 98 2:11 am  
Sample : R-6075.8  
Misc : Arco - RC-EC-33-0798A  
Quant Time: Jul 31 9:01 1998

Vial: 14  
Operator: vb  
Inst : 5971 - In  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
Title : 524.2 Purgable Organics  
Last Update : Fri Jul 31 08:59:00 1998  
Response via : Multiple Level Calibration



# Quantitation Report

Data File : c:\hpchem\1\data\v5614.d  
 Acq On : 31 Jul 98 2:58 am  
 Sample : R-6075.9  
 Misc : Arco - RC-EC-60-0798A  
 Quant Time: Jul 31 9:01 1998

Vial: 15  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics  
 Last Update : Fri Jul 31 08:59:00 1998  
 Response via : Multiple Level Calibration

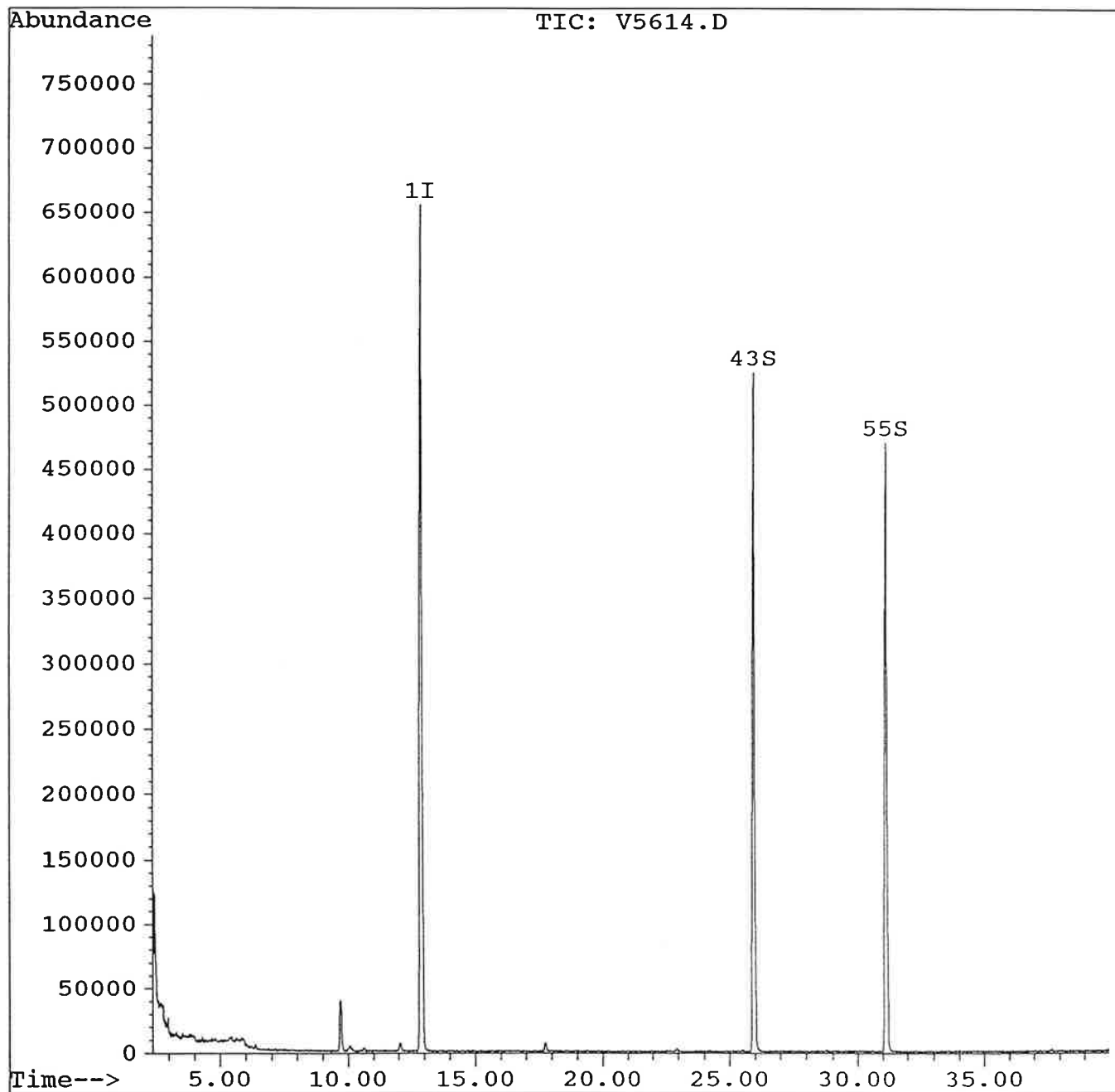
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	12.88	96	1901618	5.00	ug/L	0.00
						%Recovery
System Monitoring Compounds						
43) 4-bromofluorobenzene	25.94	95	667890	4.46	ug/L	89.11%
55) 1,2-dichlorobenzene-d4	31.13	152	423595	4.45	ug/L	89.02%
Target Compounds						Qvalue

# Quantitation Report

Data File : c:\hpchem\1\data\v5614.d  
Acq On : 31 Jul 98 2:58 am  
Sample : R-6075.9  
Misc : Arco - RC-EC-60-0798A  
Quant Time: Jul 31 9:01 1998

Vial: 15  
Operator: vb  
Inst : 5971 - In  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
Title : 524.2 Purgable Organics  
Last Update : Fri Jul 31 08:59:00 1998  
Response via : Multiple Level Calibration



# Quantitation Report

Data File : C:\HPCHEM\1\DATA\V5615.D  
 Acq On : 31 Jul 98 3:45 am  
 Sample : R-6075.10  
 Misc : Arco - RC-ER-34-0798  
 Quant Time: Jul 31 9:06 1998

Vial: 16  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics  
 Last Update : Fri Jul 31 08:59:00 1998  
 Response via : Multiple Level Calibration

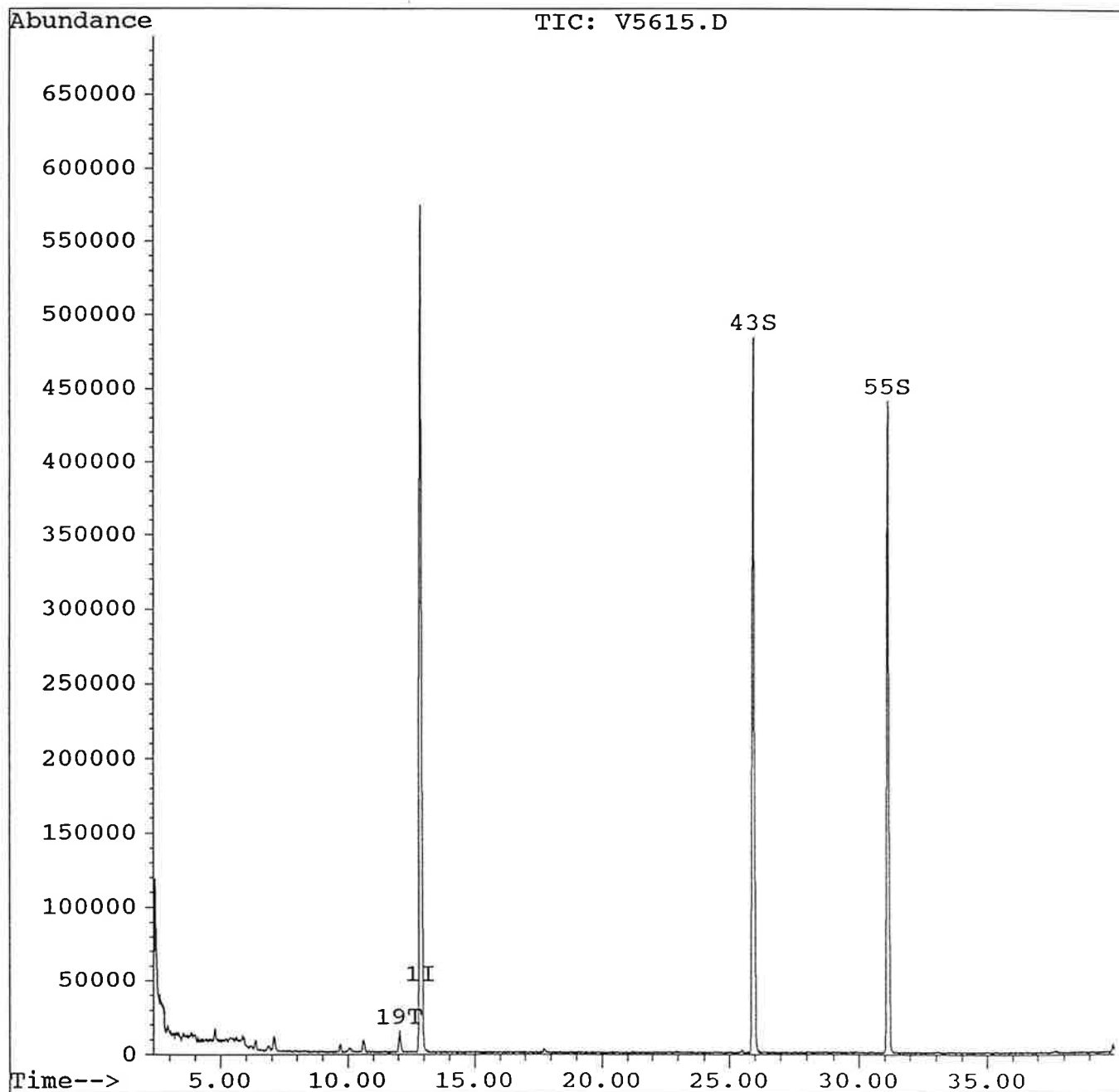
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	12.88	96	1692170	5.00	ug/L	0.00
System Monitoring Compounds						%Recovery
43) 4-bromofluorobenzene	25.95	95	629944	4.72	ug/L	94.45%
55) 1,2-dichlorobenzene-d4	31.14	152	401619	4.74	ug/L	94.84%
Target Compounds						Qvalue
19) Benzene	12.04	78	43032	0.13	ug/L	97

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\V5615.D  
Acq On : 31 Jul 98 3:45 am  
Sample : R-6075.10  
Misc : Arco - RC-ER-34-0798  
Quant Time: Jul 31 9:06 1998

Vial: 16  
Operator: vb  
Inst : 5971 - In  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
Title : 524.2 Purgable Organics  
Last Update : Fri Jul 31 08:59:00 1998  
Response via : Multiple Level Calibration





# Quantitation Report

Data File : C:\HPCHEM\1\DATA\V5616.D  
 Acq On : 31 Jul 98 4:32 am  
 Sample : R-6075.11  
 Misc : Arco - RC-ER-61-0798  
 Quant Time: Jul 31 9:06 1998

Vial: 1  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics  
 Last Update : Fri Jul 31 08:59:00 1998  
 Response via : Multiple Level Calibration

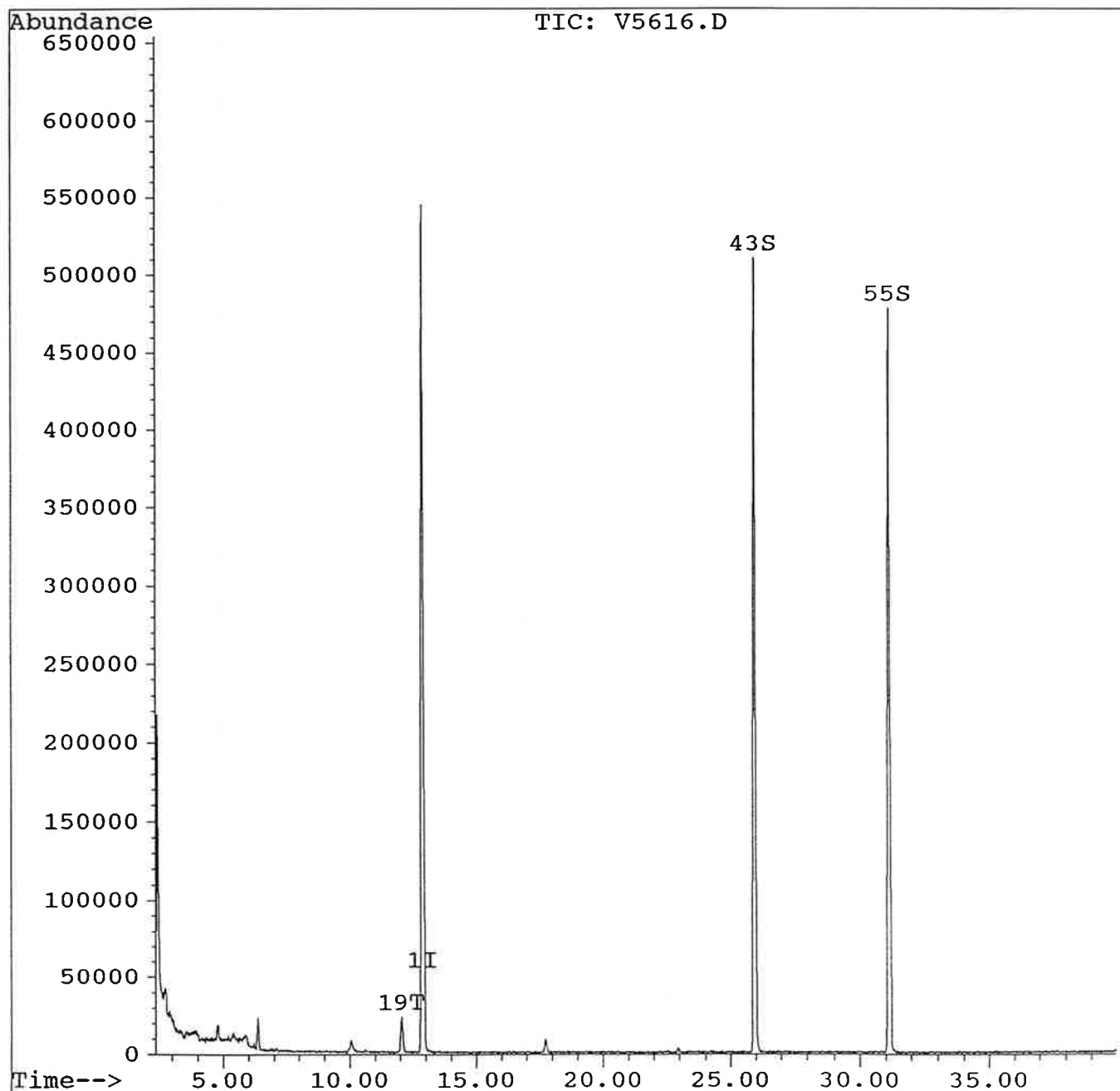
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	12.87	96	1590691	5.00	ug/L	0.00
System Monitoring Compounds						%Recovery
43) 4-bromofluorobenzene	25.94	95	660307	5.27	ug/L	105.32%
55) 1,2-dichlorobenzene-d4	31.13	152	438587	5.51	ug/L	110.18%
Target Compounds						Qvalue
19) Benzene	12.04	78	69341	0.22	ug/L	92

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\V5616.D  
Acq On : 31 Jul 98 4:32 am  
Sample : R-6075.11  
Misc : Arco - RC-ER-61-0798  
Quant Time: Jul 31 9:06 1998

Vial: 1  
Operator: vb  
Inst : 5971 - In  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
Title : 524.2 Purgable Organics  
Last Update : Fri Jul 31 08:59:00 1998  
Response via : Multiple Level Calibration



# Quantitation Report

Data File : c:\hpchem\1\data\v5617.d  
 Acq On : 31 Jul 98 5:18 am  
 Sample : R-6075.12  
 Misc : Arco - Trip Blank  
 Quant Time: Jul 31 9:01 1998

Vial: 2  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics  
 Last Update : Fri Jul 31 08:59:00 1998  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	12.87	96	1385284	5.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
43) 4-bromofluorobenzene	25.95	95	543420	4.98	ug/L	99.53%
55) 1,2-dichlorobenzene-d4	31.11	152	374225	5.40	ug/L	107.95%

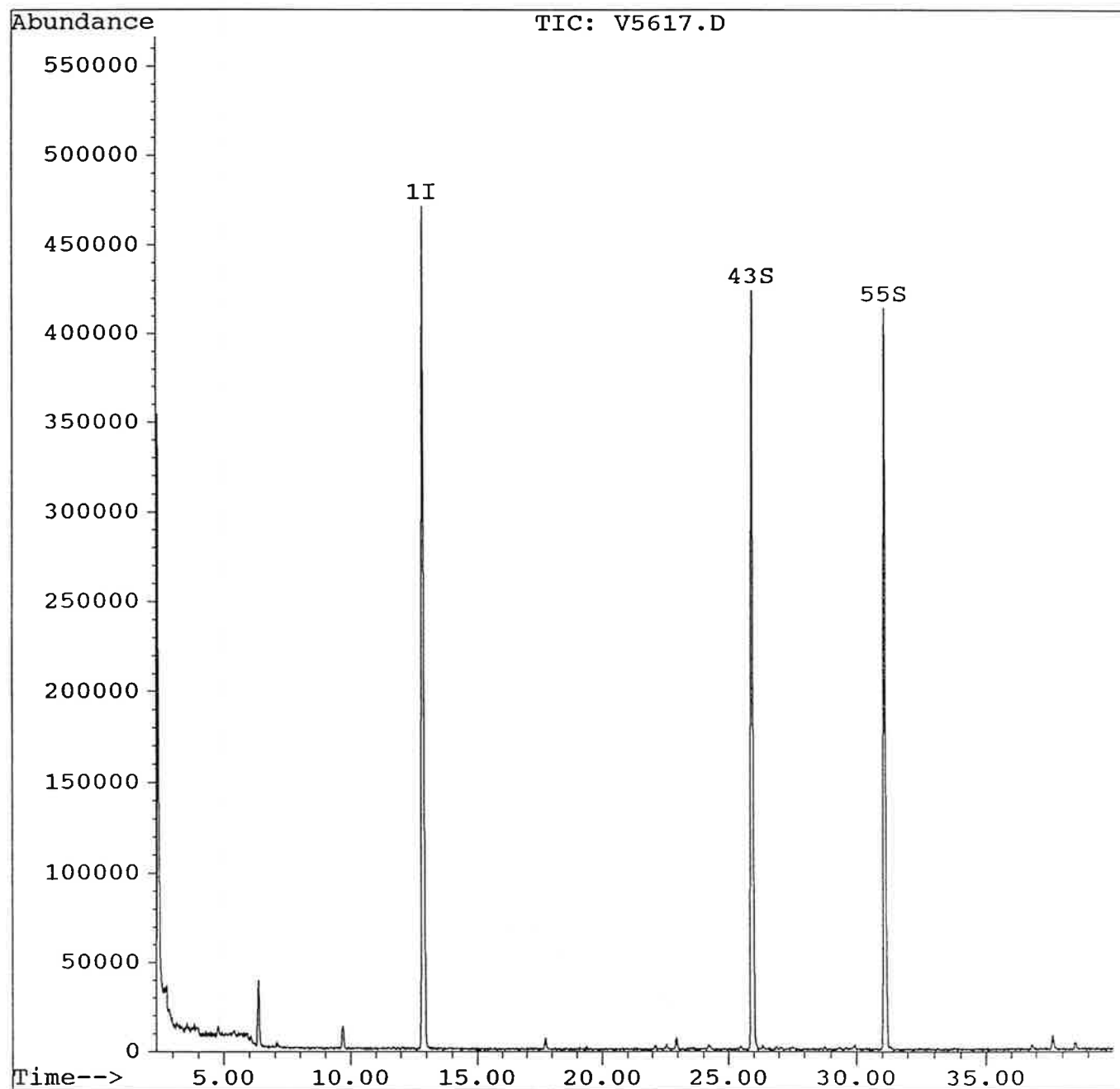
Target Compounds	Qvalue
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# Quantitation Report

Data File : c:\hpchem\1\data\v5617.d  
Acq On : 31 Jul 98 5:18 am  
Sample : R-6075.12  
Misc : Arco - Trip Blank  
Quant Time: Jul 31 9:01 1998

Vial: 2  
Operator: vb  
Inst : 5971 - In  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
Title : 524.2 Purgable Organics  
Last Update : Fri Jul 31 08:59:00 1998  
Response via : Multiple Level Calibration



**RELIANCE LABORATORIES, INC.**

**WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY**

Customer : Arco

	SAMPLE NO.	SMC1 #	SMC2 #	#	OTHER #	TOT OUT
01	VBLK01	104	95			
02	R-6075.3	95	96			
03	R-6075.4	94	91			
04	R-6075.5	99	103			
05	R-6075.6	96	101			
06	R-6075.7	89	87			
07	R-6075.8	102	106			
08	R-6075.9	89	89			
09	R-6075.10	94	95			
10	R-6075.11	105	110			
11	R-6075.121	100	108			
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

SMC1 = 4-bromofluorobenzene  
 SMC2 = 1,2-dichlorobenzene-d4

QC LIMITS  
 (85-115)  
 (85-115)

- # Column to be used to flag recovery values
- \* Values outside of contract required QC limits
- D System Monitoring Compound diluted out

RELIANCE LABORATORIES, INC.

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Matrix Spike - Sample No.: R-6075.3

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC. LIMITS REC.
Benzene	5.00	0.00	5.28	106	(80-120)
Toluene	5.00	0.00	5.25	105	(80-120)
Ethylbenzene	5.00	0.00	5.42	108	(80-120)
m&p-xylenes	5.00	0.00	5.32	106	(80-120)
o-xylenes	5.00	0.00	5.48	110	(80-120)
Styrene	5.00	0.00	5.45	109	(80-120)

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD REC.
Benzene	5.00	5.24	105	1	20 (80-120)
Toluene	5.00	5.37	107	2	20 (80-120)
Ethylbenzene	5.00	5.60	112	3	20 (80-120)
m&p-xylenes	5.00	5.52	110	4	20 (80-120)
o-xylenes	5.00	5.62	112	3	20 (80-120)
Styrene	5.00	5.70	114	4	20 (80-120)

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

Comments: \_\_\_\_\_

**RELIANCE LABORATORIES, INC.**  
**VOLATILE METHOD BLANK SUMMARY**

Customer : Arco

Lab File ID: V5606.D

Lab Sample ID: BLANK

Date Analyzed: 7/30/98

Time Analyzed: 2043

GC Column: DB-624 ID: 0.53 (mm)

Instrument ID: HP5971A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	R-6075.3	EL-20	V5608.D	2217
02	R-6075.4	EL-48	V5609.D	2304
03	R-6075.5	EC-60	V5610.D	2350
04	R-6075.6	EC-00	V5611.D	0037
05	R-6075.7	EC-33	V5612.D	0124
06	R-6075.8	EC-33A	V5613.D	0211
07	R-6075.9	EC-60A	V5614.D	0258
08	R-6075.10	ER-34	V5615.D	0345
09	R-6075.11	ER-61	V5616.D	0432
10	R-6075.121	TB	V5617.D	0518
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

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# VOLATILE ORGANIC ANALYSIS DATA SHEET

Client: Arco - Method blank

Sample ID: blank

Sample Amount: 20 mL

Matrix: Water Analyst: vb

Lab File ID: V5606.D

Units: ug/L Date Analyzed: 07/30/98

CAS No	Compound	Concentration	MDL
71-43-2	Benzene	< 0.13	0.13
108-88-3	Toluene	< 0.6	0.60
100-41-4	Ethylbenzene	< 0.22	0.22
1330-20-7	m + p-Xylenes	< 0.22	0.22
1330-20-7	o-Xylene	< 0.58	0.58

ND = Not detected

B = Compound found in blank and sample

J = Detected below MDL



# Quantitation Report

Data File : C:\HPCHEM\1\DATA\V5606.D  
 Acq On : 30 Jul 98 8:43 pm  
 Sample : blank  
 Misc :  
 Quant Time: Aug 7 8:48 1998

Vial: 7  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics  
 Last Update : Fri Aug 07 08:48:50 1998  
 Response via : Multiple Level Calibration

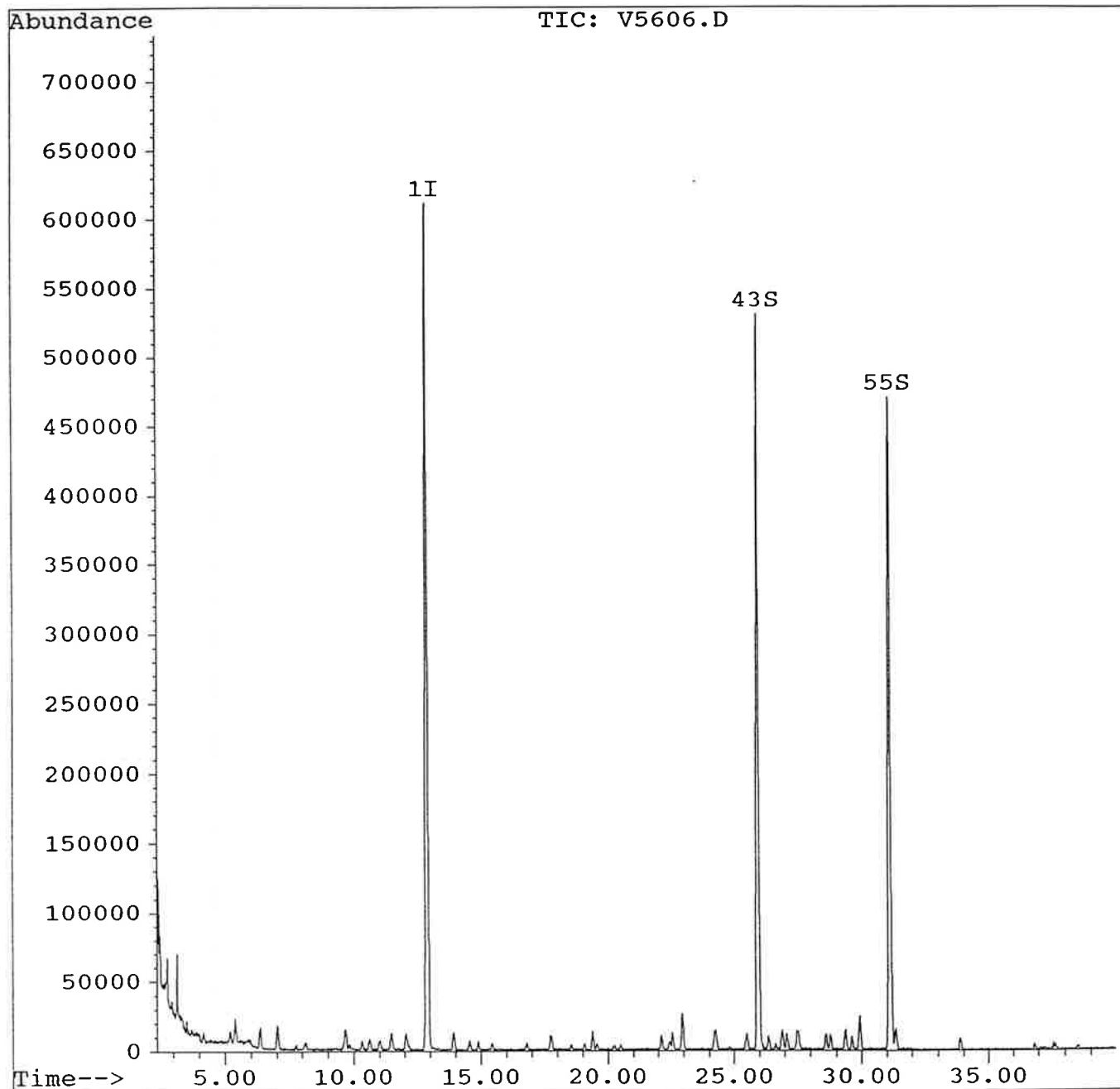
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	12.87	96	1829496	5.00	ug/L	0.00
System Monitoring Compounds						%Recovery
43) 4-bromofluorobenzene	25.94	95	715083	5.18	ug/L	103.62%
55) 1,2-dichlorobenzene-d4	31.12	152	437698	4.76	ug/L	95.12%
Target Compounds						Qvalue

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\V5606.D  
Acq On : 30 Jul 98 8:43 pm  
Sample : blank  
Misc :  
Quant Time: Aug 7 8:48 1998

Vial: 7  
Operator: vb  
Inst : 5971 - In  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
Title : 524.2 Purgable Organics  
Last Update : Fri Aug 07 08:48:50 1998  
Response via : Multiple Level Calibration



**RELIANCE LABORATORIES, INC.**  
**VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK**  
**BROMOFLUOROBENZENE (BFB)**

Customer : Arco

Lab File ID: V5602.D

BFB Injection Date: 7/30/98

Instrument ID: HP5971A

BFB Injection Time: 1747

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.3
75	30.0 - 66.0% of mass 95	40.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 ( 0.0 )1
174	50.0 - 120.0% of mass 95	79.2
175	4.0 - 9.0% of mass 174	5.7 ( 7.2 )1
176	93.0 - 101.0% of mass 174	79.8 ( 100.8 )1
177	5.0 - 9.0% of mass 176	5.1 ( 6.3 )2

1-Value is % mass 174

2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

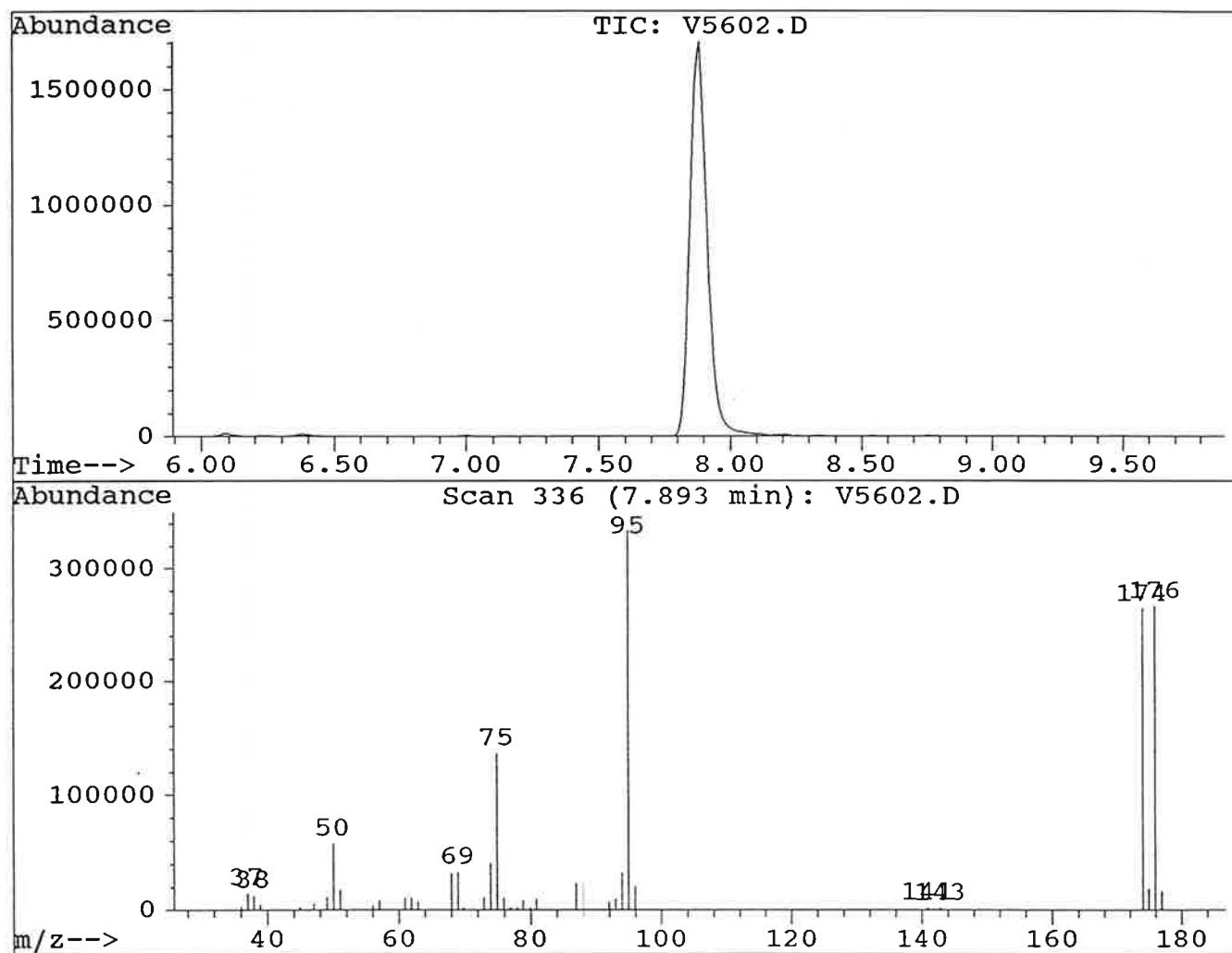
	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD010	ICC001	V5603.D	7/30/98	1822
02	VSTD020	ICC002	V5604.D	7/30/98	1909
03	VSTD050	ICC005	V5605.D	7/30/98	1956
04	VBLK01	BLANK	V5606.D	7/30/98	2043
05	R-6075.3	EL-20	V5608.D	7/30/98	2217
06	R-6075.4	EL-48	V5609.D	7/30/98	2304
07	R-6075.5	EC-60	V5610.D	7/30/98	2350
08	R-6075.6	EC-00	V5611.D	7/31/98	0037
09	R-6075.7	EC-33	V5612.D	7/31/98	0124
10	R-6075.8	EC-33A	V5613.D	7/31/98	0211
11	R-6075.9	EC-60A	V5614.D	7/31/98	0258
12	R-6075.10	ER-34	V5615.D	7/31/98	0345
13	R-6075.11	ER-61	V5616.D	7/31/98	0432
14	R-6075.121	TB	V5617.D	7/31/98	0518
15					
16					
17					
18					
19					
20					
21					
22					

BFB

Data File : C:\HPCHEM\1\DATA\V5602.D  
 Acq On : 30 Jul 98 5:47 pm  
 Sample : bfb  
 Misc :

Vial: 1  
 Operator: vb  
 Inst : 5971 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RUN524.M  
 Title : 524.2 Purgable Organics



Peak Apex is scan: 336

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.3	57760	PASS
75	95	30	80	40.9	136576	PASS
95	95	100	100	100.0	334080	PASS
96	95	5	9	6.3	21064	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	79.2	264640	PASS
175	174	5	9	7.2	19032	PASS
176	174	95	101	100.8	266752	PASS
177	176	5	9	6.3	16872	PASS

## Customer Arco

Calibration Times: 1822 1956

ID: 0.53 (mm)

[illegible]

**RELIANCE LABORATORIES, INC.**

**VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY**

Customer : Arco

Lab File ID (Standard): V5605.D

Date Analyzed: 7/30/98

Instrument ID: HP5971A

Time Analyzed: 1956

GC Column: DB-624

ID: 0.53 (mm)

	IS1 AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	1788990	12.87				
UPPER LIMIT	3577980	13.37				
LOWER LIMIT	894495	12.37				
SAMPLE NO.						
01 VBLK01	1829496	12.87				
02 R-6075.3	1750106	12.88				
03 R-6075.4	1875732	12.88				
04 R-6075.5	1681324	12.88				
05 R-6075.6	1584269	12.87				
06 R-6075.7	1980936	12.87				
07 R-6075.8	1410636	12.88				
08 R-6075.9	1901618	12.88				
09 R-6075.10	1692170	12.88				
10 R-6075.11	1590691	12.87				
11 R-6075.121	1385284	12.87				
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 = Fluorobenzene

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = -50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk

\* Values outside of QC limits.



# DEPARTMENT OF ENVIRONMENTAL PROTECTION

## *Certifies That*

Reliance Laboratories, Inc.  
3090 Wood Bridge Avenue  
Edison, NJ 08837



*having duly met the requirements of the*

*Regulations Governing Laboratory Certification*

*And Standards Of Performance N.J.A.C. 7:18 et. seq.*

*is hereby approved as a*

*State Certified Water Laboratory*

*To perform the analyses as indicated on the Annual Certified Parameter List  
which must accompany this certificate to be valid*

# 12687  
PERMANENT CERTIFICATION NUMBER

January 11, 1989  
DATE



*Christine J. Day*  
ACTING COMMISSIONER  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

This certification is subject to unannounced laboratory inspections as specified by  
N.J.A.C. 7:18-2.11(d) and agreed to by the Laboratory Manager on filing the application

TO BE CONSPICUOUSLY DISPLAYED AT THE LABORATORY WITH THE ANNUAL CERTIFIED PARAMETER LIST.

# CHAIN OF CUSTODY

Page 1 of 2

CUSTOMER: ARCO

ADDRESS: 400 Frankfort Rd

Monaca PA 15061

PHONE (724) 728-6586

FAX (724) 728-6498

Reliance Laboratories, Inc.

175 May Street  
Edison, NJ 08837

Tel. 732-738-5454 / Fax. 732-738-5841

DATE: 7-29-98

LAB ID: R-6075

Project ID: \_\_\_\_\_

Turnaround time: \_\_\_\_\_

Fax results ☒ / n (724) 728 6498 (standard / rush)

Sampler Name: Brian Peltoff

Preserved: Y / n

Sample Intact: ☒ / n

\* circle

Preserved: Y / <u>n</u>		Sample Intact: <u>Y</u> / n																							
SAMPLE ID	Date Sd.	Time	# of containers	MATRIX			ORGANICS							METALS					OTHERS				Notes:		
				Water	Soil	Other	BTEX (602/8020)	TPH (418.1)	VOA (624/8260) + 15 *	BNA / BN / + 25 *	Pest / Herb	PCB's	TCLP Organics / PP + 40	<del>Ben</del> Benzene	TCLP/ RCRA (8)	Priority Pol.(13)	Total Metals (list below)	Dissolved Metals	Other-	pH / CN / Sulfide *	Fl.pt / % solids *	O & G / TSS / TOX *		BOD / COD / TOC *	
CPDR-7-98	7-29-98	1530	1																						1001 43.39
CPDR-7-98	7-29-98	1534	1																						1002 43.32
RC-EL-20-0798	7-29-98	9:00	1				X																		
RC-EL-48-0798	7-29-98	9:05	1				X																		
RC-EC-60-0798	7-29-98	8:47	1				X																		
RC-EC-60-0798	7-29-98	9:02	1				X																		
RC-EC-33-0798	7-29-98	8:50	1				X																		
RC-EC-33-0798	7-29-98	8:55	1				X																		
RC-EC-60-0798	7-29-98	8:47	1				X																		
RC-ER-34-0798	7-29-98	9:12	1				X																		

Instructions:

Submitted by: \_\_\_\_\_

Agent of: \_\_\_\_\_

Received by: \_\_\_\_\_

Agent of: \_\_\_\_\_

Submitted by: \_\_\_\_\_

Agent of: \_\_\_\_\_

Received by: \_\_\_\_\_

Agent of: \_\_\_\_\_

Submitted by: \_\_\_\_\_

Agent of: \_\_\_\_\_

Received by: \_\_\_\_\_

Agent of: \_\_\_\_\_

Report to: \_\_\_\_\_

Deliverables:

☐ Standard  
☐ Reduced  
☐ Customized

Date/Time: \_\_\_\_\_



# CHAIN OF CUSTODY

Page 2 of 2

CUSTOMER: ATCO Chemical  
 ADDRESS: 400 Franklin Rd  
Maraca PA 15061  
 PHONE (724) 728-6586  
 FAX (724) 728-6498

Reliance Laboratories, Inc.  
 175 May Street  
 Edison, NJ 08837  
 Tel. 732-738-5454 / Fax. 732-738-5841

DATE: 7-29-98  
 LAB ID: R-6075  
 Project ID: \_\_\_\_\_  
 Turnaround time: \_\_\_\_\_  
 Fax results: ☒ / n (724) 728-6498  
 (standard / rush)

Sample Name: Brown Petroft  
 Preserved: Y / ☒ N  
 Sample Intact: ☒ / n

SAMPLE ID	Date Spld.	Time	# of containers	MATRIX			ORGANICS							METALS				OTHERS				Notes:		
				Water	Soil	Other	BTEX (602/8020)	TPH (418.1)	VOA (624/8260) + 15 *	BNA / BN / + 25 *	Pest / Herb	PCB's	TCLP Organics / PP + 40	Other -	TCLP/ RCRA (8)	Priority Pol.(13)	Total Metals (list below)	Dissolved Metals	Other-	pH / CN / Sulfide *	Fl.pt / % solids *		O & G / TSS / TOX *	BOD / COD / TOC *
<u>Ac-E2-61-0794</u>	<u>7-29-98</u>	<u>9:14</u>	<u>1</u>				<u>X</u>																	
<u>Trip Blank</u>	<u>-</u>		<u>1</u>				<u>-</u>																	
<u>Trip Blank</u>	<u>-</u>		<u>1</u>				<u>-</u>																	

Instructions: Please Fax Dave Smallwood and/or call with results first check you can  
with results and results before monday 8-3-98

Submitted by: Brown Petroft Submitted by: \_\_\_\_\_  
 Agent of: P HA Agent of: \_\_\_\_\_  
 Received by: [Signature] Received by: \_\_\_\_\_  
 Ag f: \_\_\_\_\_  
 Report to: \_\_\_\_\_  
 Deliverables: ☐ Standard ☐ Rush